

REMARKS

Claims 1, 2 and 4-8 are pending.

Claim 1 is an independent claim.

Claims 2 and 4-8 depend either directly on the independent claim or through intervening claims.

Drawings

The prior Office Action stated that the drawings should be corrected in accordance with the approval of the corrections submitted by the Applicant on October 12, 2001.

As the Patent Office has required our new formal drawings, new formal drawings with the corrections set forth in the Letter of October 12, 2001 have been made and were presented.

Note, the Letter to the Official Draftsperson accompanying the Reply under 37 C.F.R. § 1.116 together with the formal drawings, attached to that Letter. The entry of the formal drawings is requested.

Reply to Objection

Claims 3, 7 and 8 were objected to because of wording. The Examiner's detailed review of these claims is appreciated. Claims 7 and 8 have been amended in accordance with the suggestions in the Office Action. Additionally, another editorial change was made to claim 7. Also, claim 3 is cancelled and the subject matter is now included in base claim 1 with the correction suggested.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the objection to the claims.

Reply to Rejections

First Rejection

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Paoli (U.S. Patent 5,228,049). Claim 1 now includes the subject matter of cancelled claim 3. This rejection is traversed.

In the rejection, it was asserted that Paoli discloses the claimed invention in Figures 2, 6 and the discussion thereof.

In reviewing Paoli, there is no inherent or specific disclosure of the structure, for example in claim 1 of the following:

wherein the semiconductor layer is the spot-size converter, and the refractory index of the semiconductor layer varies in a layer direction continuously or in a stepwise manner. (Emphasis added).

For example, this is shown in Figure 2A wherein element 500 is the semiconductor layer which is described for example, in the specification, page 25, first full paragraph and the paragraph bridging pages 25 and 26 of the specification. Note the layer thickness which is described in the specification is represented by the letter Y in Figure 2A.

It is submitted that there is no specific or inherent disclosure in Paoli that shows the structure in the context claimed. Note the reference to the drawing has been done for the convenience of the Examiner and is not to be considered as limiting to the claims.

If the rejection is to be repeated or maintained, it is requested that the Patent Office particularly point out where this feature is described above as shown in the reference. See the case of *Ex parte Levy*, 17 USPQ 1461, 1462 (BPAI 1990). This case is also cited in the list of Decisions in the MPEP dated August 20, 2001. In that case, the Board held as follows:

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention. . . Moreover, it is incumbent upon the Examiner to identify where each and every facet of the claimed invention is disclosed in the applied reference. (Emphasis added).

It may be that the assertion of the Patent Office in that disclosure is inherent in the reference. But inherency cannot be based on possibility or probability. See *Continental Can Co., U.S.A., Inc. v. Monsanto Co.*, 20 USPQ 2nd 1746, 1749, 1750 (Fed. Circuit 1991) cited in the list of Decisions of the MPEP of August 2001. In the case, the Court held as follows:

To serve as anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled. . . [such] that the missing . . . matter is necessarily present in the . . . reference, and that it would be so recognized by persons of ordinary skill . . . "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. . (Emphasis added).

Note, also the feature described above with respect to claim 1 is also an important feature in the context claimed.

Claim 1 now includes the features of claim 3 that has been cancelled. As claim 3 was rejected under 35 U.S.C. § 103 based on Paoli in view of Andrews

(U.S. Patent No. 5,175,643) this rejection, with respect to the combination of references will be addressed here.

Initially, as stated above Paoli does not disclose what was in original claim 1, either specifically or inherently and the addition of Andrews does not cure the inherent deficiencies of a rejection based on Paoli even though a rejection under 35 U.S.C. § 103 may be used.

Additionally, while the Examiner sets forth what Andrews' shows, there is actually no *prima facie* case of obviousness established because it would appear that the only motivation to combine the references is by using the Applicants own disclosure as a template in restructuring the art or arrive at the claim subject matter.

Also, it appears that the Examiner has concentrated not on the subject matter as a whole as required by 35 U.S.C. § 103, but on the obviousness of the substitution. This is an invalid reason for rejecting a claim under 35 U.S.C. § 103 as set forth in the case of *Hyritech, Inc. v. Monoclonal Antibodies, Inc.* 231 USPQ 81 (Fed.cir. 1986) (also cited in the MPEP, August 2001 edition in the List of Decisions) wherein the court stated as follows:

Focusing on the obviousness of substitutions and differences instead of on the invention as a whole was illegally improper way to simplify the difficult determination of obviousness. See generally, *Hodosh v. Block Drug, Co.* 786 F2d 1136, 229 USPQ 182 (Fed. cir. 1986).

With respect to dependent claim 2, which was also rejected, this claim is considered patentable at least for the same reasons as the base claim 1, amended.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. 102 and 103.

Second Rejection

Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Paoli in view of Andrews (U.S. Patent 5,175,643). This rejection is traversed.

Claim 4 depends on claim 1, amended. The Andrews reference does not cure the inherent deficiencies of Paoli as set forth in the Reply to the first rejection, *supra*.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. 103.

Third Rejection

Claims 5 and 6 were rejected under 35 U.S.C. 103(a) as being unpatentable over Paoli in view of Sanders et al. (U.S. Patent 5,912,910). This rejection is traversed.

Initially, these claims depend on claims 1 amended and 2, respectively. The addition of Sanders et al. does not cure the inherent deficiencies based on a rejection on Paoli combined with Andrews for the reasons set forth in the reply to the first rejection.

Additionally, although in Figure 8 of Sanders et al., there is an M-MOPA identified, see also the description of Figure 8 in column 10, starting at line 26, there is no *prima facie* case of obviousness because there would be no motivation outside of the Applicants own disclosure to provide the structure in

the context claimed. In this rejection, it appears that the Office Action has concentrated not on the invention as a whole, but on the substitution of parts. But this is not a viable rejection under 35 U.S.C. 103. See Hybritech, Inc. v. Monoclonal Antibodies, Inc., 231 USPQ 81 (Fed. Circuit 1986) (cited above).

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. 103.

Fourth Rejection

Claims 7 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Paoli and Andrews as applied to claims 3 and 4 above, and further in view of Sanders et al. This rejection is traversed.

Claims 7 and 8 now depend on claims 1 and 4, respectively. As set forth in the Reply to the first and second rejection, Paoli and Andrews do not show or suggest the structure in claims 1 and 4. The comments (reply) regarding the first and second rejection are incorporated herein. The addition of Sanders does not cure the inherent deficiencies of a rejection based on Paoli and Andrews because a *prima facie* case of obviousness has not been established. This was discussed in the Reply to the third rejection which is incorporated herein.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. 103.

CONCLUSION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Elliot A. Goldberg (Reg. No. 33,347) at the telephone number of (703) 205-8000, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully Submitted,

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TCB/EAG/kss/lab
Enclosure: Marked-up copy of the claims

MARKED-UP COPY OF THE CLAIMS

IN THE CLAIMS:

Please amend the claims as follows:

1. (Twice Amended) A semiconductor laser device with a spot-size converter, comprising:

 a semiconductor substrate having a semiconductor laser region and a semiconductor layer thereon,

 [wherein] the semiconductor layer is the spot-size converter, and the refractive index of the semiconductor layer varies in a layer direction continuously or in a stepwise manner, and

wherein another semiconductor layer is provided on a boundary plane between the semiconductor laser region and semiconductor layer, and the refractive index of the another semiconductor layer is approximately constant.

7. (Twice Amended) A semiconductor laser device with a spot-size converter according to claim 1 [3], wherein the semiconductor laser device having a spot-size converter includes a further light waveguide region at an opposite side of the semiconductor laser region facing to the semiconductor layer.

8. (Twice Amended) A semiconductor laser device with a spot-size converter according to claim 4, wherein the semiconductor laser device having a spot-size converter includes a further light waveguide region at an opposite side of the semiconductor laser region facing to the semiconductor layer.